

US EPA ARCHIVE DOCUMENT

The New Line-Haul Locomotive Standards (g/bhp-hr)

locomotive group	date	PM		NOx		HC	
		previous standard	new standard	previous standard	new standard	previous standard	new standard
Remanufactured Line-Haul Locomotive Standards							
Remanufactured Tier 0 & 1	2008 as available 2010 required	0.60	0.22	9.5 (Tier 0) 7.4 (Tier 1)	7.4 (8.0 if no SLAC)	1.00 (Tier 0) 0.55 (Tier 1)	0.55 (1.00 if no SLAC)
Remanufactured Tier 2	2008 as available 2013 required	0.20	0.10	5.5	5.5	0.30	0.30
Newly-built Line-Haul Locomotive Standards							
Tier 3	2012	--	0.10	--	5.5	--	0.30
Tier 4	2015	--	0.03	--	1.3	--	0.14

SLAC = separate loop intake air cooling.

Additionally, in all locomotive groups:

Idle emissions control– must equip locomotive with automatic engine stop/start.

HC standards are Total HC, except Tier 4 (NMHC).

Part 92 smoke standards apply if PM FEL >0.05 g/bhp-hr, but are generally waived from testing.

Part 92 CO standards continue to apply (at Tier 2 levels for Tiers 3&4); notch caps also apply.

Must also meet switch-cycle standards of the same tier (of Tier 2 for Tier 3 line-haul locomotive) except for Tier 4.

The New **Switch** Locomotive Standards (g/bhp-hr)

locomotive group	date	PM		NOx		HC	
		previous standard	new standard	previous standard	new standard	previous standard	new standard
Remanufactured Switch Locomotive Standards							
Remanufactured Tier 0	2008 as available 2010 required	0.72	0.26	14.0	11.8	2.10	2.10
Remanufactured Tier 1	2008 as available 2010 required	0.54	0.26	11.0	11.0	1.20	1.20
Remanufactured Tier 2	2008 as available 2013 required	0.24	0.13	8.1	8.1	0.60	0.60
Newly-built Switch Locomotive Standards							
Tier 3	2011	--	0.10	--	5.0	--	0.60
Tier 4	2015	--	0.03	--	1.3	--	0.14

Additionally, in all locomotive groups:

Idle emissions control– must equip locomotive with automatic engine stop/start.

HC standards are Total HC, except Tier 4 (NMHC).

Part 92 smoke standards apply if PM FEL >0.05 g/bhp-hr, but are generally waived from testing.

Part 92 CO standards continue to apply (at Tier 2 levels for Tiers 3&4); notch caps also apply.

Can also use alternative nonroad engine-based program.